AMENDMENTS TO THE CLAIMS

This following listing of claims replaces all previous versions of the claims in this application.

Listing of Claims

1. -21. **(Canceled)**

22. **(Previously presented)** A stock solution of pre-inhibited thermostable polymerase for polynucleotide synthesis comprising: a thermostable polymerase reversibly bound to a non-nucleic acid polyanion in a storage buffer, wherein said non-nucleic acid polyanion is provided at a molar concentration relative to said thermostable polymerase that reversibly inhibits said thermostable polymerase; and

wherein said stock solution lacks at least one of a template nucleic acid and a primer for said template nucleic acid.

23. **(Previously presented)** The stock solution of claim 22 wherein the non-nucleic acid polyanion has a molecular weight of from 1,500 to 500,000 da.

24. **(Previously presented)** The stock solution of claim 22 wherein the non-nucleic acid polyanion has a molecular weight of from 4,000 to 15,000 da.

25. **(Previously presented)** The stock solution of claim 22 wherein the non-nucleic acid polyanion has a molecular weight of from 4,000 to 10,000 da.

26. **(Previously presented)** The stock solution of claim 22 wherein the non-nucleic acid polyanion is a synthetic organic polysulfate selected from the group poly(anetholsulfonic acid), polyvinyl sulfate, and polystyrene sulfate.

27. **(Previously presented)** The stock solution of claim 26 wherein the synthetic organic polysulfate is a sulfated oligo- or polysaccharide.

28. (**Previously presented**) The stock solution of claim 27 wherein the sulfated oligo- or polysaccharide is a sulfated polymer or copolymer of the sugars selected from the group consisting of glucose, N-acetyl-glucosamine, galactouronic acid, hyalouronic acid, N-acetyl-galactosamine and fucose.

29. (**Previously presented**) The stock solution of claim 28 wherein the sulfated polymer or copolymer of the sugar is selected from the group consisting of dextran sulfate, fucoidan, heparin, heparan sulfate, chondroitin polysulfate, keratan polysulfate, xylan polysulfate, and pentosan polysulfate.

30. (**Previously presented**) The stock solution of claim 22 wherein the non-nucleic acid polyanion is at a concentration of from 0.1 μM to 1.5 μM.

31. (**Previously presented**) The stock solution of claim 22 wherein the non-nucleic acid polyanion is at a concentration of from 0.2 μM to 1.0 μM.

32. (**Previously presented**) The stock solution of claim 22 wherein the thermostable polymerase is selected from the group consisting of DNA polymerase, RNA polymerase, reverse transcriptase, and mixtures thereof.

33. (**Previously presented**) The stock solution of claim 32 wherein the thermostable polymerase is a DNA polymerase and the DNA polymerase is from a thermophilic Eubacteria or a Archaebacteria.

34. (**Previously presented**) The stock solution of claim 33 wherein the thermostable polymerase is selected from the group consisting of Thermus aquaticus, T. thermophilus, T. brockianus, T. flavus, T. ruber, Thermatoga maritima, Thermoplasma acidophilus, Pyroccocus furiosus, Pyroccocus woesii, Pyroccocus spec., Sulfolobus spec., and mixtures thereof.

35. (**Previously presented**) The stock solution of claim 32 wherein the thermostable

polymerase is a reverse transcriptase and wherein the reverse transcriptase is selected from the group consisting of MmLV reverse transcriptase, AMV reverse transcriptase, RSV reverse transcriptase, HIV-1 reverse transcriptase, HIV-2 reverse transcriptase, and mixtures thereof.

36. - 42. (**Canceled**)

43. (**Previously presented**) A kit for polynucleotide synthesis on a target nucleic acid comprising the stock solution of pre-inhibited thermostable polymerase of claim 22 in one container and optionally in a separate container a reaction buffer comprising monovalent cations between about 35-100 mM.

44. (**Previously presented**) The kit of claim 43 wherein the thermostable polymerase is Thermus aquaticus.

45. (**Previously presented**) The kit of claim 43 wherein the non-nucleic acid polyanion is dextran sulfate.

46. (**Previously presented**) The kit of claim 43 further comprising at least one nucleotide 5'-triphosphate.

47. (**Previously presented**) The kit of claim 43 further comprising a pair of primers for the target nucleic acid in said separate container.

48. (**Canceled**)

49. (**New**) A stock solution of pre-inhibited thermostable polymerase for polynucleotide synthesis consisting essentially of: a thermostable polymerase reversibly bound to a non-nucleic acid polyanion in a storage buffer, wherein said non-nucleic acid polyanion is provided at a molar concentration relative to said thermostable polymerase that reversibly inhibits said thermostable polymerase.

50. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion has a molecular weight of from 1,500 to 500,000 da.

51. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion has a molecular weight of from 4,000 to 15,000 da.

52. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion has a molecular weight of from 4,000 to 10,000 da.

53. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion is a synthetic organic polysulfate selected from the group poly(anetholsulfonic acid), polyvinyl sulfate, and polystyrene sulfate.

54. (**New**) The stock solution of claim 55 wherein the synthetic organic polysulfate is a sulfated oligo- or polysaccharide.

55. (**New**) The stock solution of claim 56 wherein the sulfated oligo- or polysaccharide is a sulfated polymer or copolymer of the sugars selected from the group consisting of glucose, N-acetyl-glucosamine, galactouronic acid, hyalouronic acid, N-acetyl-galactosamine and fucose.

56. (**New**) The stock solution of claim 57 wherein the sulfated polymer or copolymer of the sugar is selected from the group consisting of dextran sulfate, fucoidan, heparin, heparan sulfate, chondroitin polysulfate, keratan polysulfate, xylan polysulfate, and pentosan polysulfate.

57. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion is at a concentration of from 0.1 μM to 1.5 μM.

58. (**New**) The stock solution of claim 51 wherein the non-nucleic acid polyanion is at a concentration of from 0.2 μM to 1.0 μM.

59. (**New**) The stock solution of claim 51 wherein the thermostable polymerase is selected from the group consisting of DNA polymerase, RNA polymerase, reverse transcriptase, and mixtures thereof.

60. (**New**) The stock solution of claim 61 wherein the thermostable polymerase is a DNA polymerase and the DNA polymerase is from a thermophilic Eubacteria or a Archaebacteria.

61. (**New**) The stock solution of claim 62 wherein the thermostable polymerase is selected from the group consisting of Thermus aquaticus, T. thermophilus, T. brockianus, T. flavus, T. ruber, Thermatoga maritima, Thermoplasma acidophilus, Pyroccocus furiosus, Pyroccocus woesii, Pyroccocus spec., Sulfolobus spec., and mixtures thereof.

62. (**New**) The stock solution of claim 61 wherein the thermostable polymerase is a reverse transcriptase and wherein the reverse transcriptase is selected from the group consisting of MmLV reverse transcriptase, AMV reverse transcriptase, RSV reverse transcriptase, HIV-1 reverse transcriptase, HIV-2 reverse transcriptase, and mixtures thereof.

63. (**New**) A kit for polynucleotide synthesis on a target nucleic acid comprising the stock solution of pre-inhibited thermostable polymerase of claim 51 in one container and optionally in a separate container a reaction buffer comprising monovalent cations between about 35-100 mM.

64. (**New**) The kit of claim 65 wherein the thermostable polymerase is Thermus aquaticus.

65. (**New**) The kit of claim 65 wherein the non-nucleic acid polyanion is dextran sulfate.